AMENDMENTS TO THE CLAIMS:

This listing of claims will replace all prior versions, and listings, of claims in the application.

LISTING OF CLAIMS:

1. (currently amended)

An automated computer-controlled field-deployable monitoring system for collection and analysis of environmental contaminants and determining the concentration of an analyte of interest in ground water, industrial and surface water, comprising:

diversion means dividing a water sample into first and second flow paths, said first flow path directing the water sample to a sample chamber for analysis, and the second flow path passing the water sample through one of (a) a media, (b) a chamber, to eliminate the analyte of interest before introduction of water into ~~the~~ a sample chamber,

a calibration assembly to add a standard of predetermined concentration of analyte to the water after it passes through one of (a) the media, (b) the chamber, to eliminate the analyte of interest, ~~-and-~~

means to reunite said first and second flow paths into a single flow path, and

an analytical assembly to receice water from said single flow path to determine the concentration of the analyte in the sample water for either of the first or second flow paths.

2. (original)

An automated monitoring system according to Claim 1, and further comprising a calibration loop for establishing a predetermined amount of standard solution.

3. (original)

An automated monitoring system according to Claim 1, and further comprising:

means to provide a matrix modifier, and

a valved loop defining a volume of matrix modifier introduced into the sample chamber.

4. Canceled.

5. (currently amended)

An automated monitoring system according to Claim 1, ~~wherein:~~ and further comprising a casing for the analytical and calibration assemblies ~~are disposed in a casing separate from a monitoring well casing~~ to provide improved environmental control, ease of maintenance and security.

6. (previously presented)

An automated monitoring system according to Claim 1, and further comprising means for stirring a ground water sample to enhance volatilization of concentration of the analyte in the sample.

7. (original)

An automatic monitoring system according to Claim 1, wherein trichloroethylene is the analyte of interest, and monitoring and analysis are performed utilizing an optrode assembly and procedure.

8. (currently amended)

~~An automated computer controlled~~ A method for determining concentration of an analyte of interest in ground water and surface water, comprising: ~~the steps of:~~

providing a field deployable automated computer- controlled monitoring system for determining concentration of an analyte of interest in ground water and surface water,

collecting and transporting a water sample to a preparatory treatment assembly,

passing the water sample to diversion means to divide the water sample into first and second flow paths, said first flow path directing the water sample to a sample chamber for analysis, and the second flow path passing the water sample through one of (a) a media, (b) a chamber, to eliminate the analyte of interest before introduction of water into the sample chamber,

passing the water sample to a calibration assembly to add a standard of predetermined concentration of analyte to the water sample after it passes through one of (a) the media, (b) the chamber, to eliminate the analyte of interest, ~~and~~

(continued)

8. (currently amended - continued)

reuniting said first and second flow paths into a single flow path, and

passing the single flow water sample to an analytical assembly to determine the concentration of the analyte in the sample water for either of the first or second flow paths.

9. (original)

A method according to Claim 8, and further comprising:

introducing calibration standards into a standard container and transporting the standard by a sample vessel.

10. (previously presented)

A method according to Claim 8, and further comprising the steps of:

calibrating for analysis by providing a predetermined amount of standard solution via a calibration loop and passing it into the sample chamber.

11. (original)

A method according to Claim 10, and further comprising:

passing the sample from a well casing to a calibration system to prepare blanks or standards for addition of the standard directly for use in the analytical assembly.

12. (previously presented)

A method according to Claim 8, and further comprising the steps of:

introducing the sample into a sample vessel until a lower sensor is satisfied, and

adding water to the sample vessel from a water treatment cartridge until an upper water level sensor in the sample vessel is satisfied to provide a predetermined dilution.

13. (previously presented)

A method according to Claim 8, wherein the analyte of interest is trichloroethylene and analysis utilizes an optroduce assembly.

14. (previously presented)

A method according to Claim 8, and further comprising relaying analysis data from the analytical assembly to a communication system for transmission to a cognizant agency.

15. (previously presented)

An automated monitoring system according to Claim 1, and further comprising a sampling device within a well casing and comprising valve means and water level sensor means to provide a ground water sample of predetermined volume.

16. (previously presented)

An automated monitoring system according to Claim 15, and further including a treatment assembly to receive the sample from the sampling device, said treatment assembly comprising means to provide a calibration standard for the analytical assembly, and one of (a) a treatment cartridge to filter the sample and a calibration sensor, (b) a source of analyte-free water connected with the treatment assembly.

17. (previously presented)

An automated monitoring system according to Claim 1, and further comprising means to receive analysis and assay data from the analytical assembly to transmit the data to a cognizant agency.